

FIELD	Transportation and distribution
SUB-FIELD	Solutions for decarbonization
CATEGORY	Alternative fuels
SOLUTION NAME	San Pellegrino & Maganetti case: bio-LNG vehicles
APPLICATION	Sanpellegrino (Nestlé Group); Maganetti Group; Speranza Cooperative; CIB
DESCRIPTION	<p>In 2014, Sanpellegrino and the Maganetti Group seized the opportunity presented by Iveco's introduction of vehicles using alternative fuels (CNG-LNG) and decided to develop a complex project to achieve the best possible energy transition over the years using biofuels.</p> <p>The conversion of part of Sanpellegrino's dedicated fleet and the construction of a first public LNG distributor serving the Sondrio province began immediately.</p> <p>At the same time as the publication of the 2018 biomethane tender, thanks to the support of the Consorzio Italiano Biogas, a supply chain agreement was signed with Speranza Cooperative (Candiolo, TO): part of the cooperative's 4,000 animals and agricultural waste are dedicated to the production of bio-LNG in a new advanced biodigester. The Candiolo plant, which will become operational in 2020, divides the biogas produced between CO₂, which is liquefied and reused for industrial purposes, and CH₄ (biomethane), which is in turn liquefied to become bio-LNG; the end result is the production of about 2,000 tons of biomethane a year, equal to about 7,000,000 km of total distance covered by heavy vehicles.</p> <p>The fuel produced at Candiolo is now carried to distributors owned by Maganetti in Gera Lario (CO) and Carpiano (MI) to be used on its own or sold to other transporters, while the CO₂ produced is placed on the market by a company specialising in technical gases.</p> <p>In 2021, the study published by the CNR certified the environmental aspect of bio-LNG, pointing out a CO₂e saving in Candiolo of 104% compared to diesel.</p> <p>The production and use of bio-LNG has been a concrete step towards the decarbonisation of heavy transport, reducing CO₂e emissions and local pollutants; bio-LNG has also proved to be a virtuous example of renewable energy and circular economy, valorising waste from local animal farming and agriculture and decreasing the country's energy dependency.</p>

OBJECTIVES	<ul style="list-style-type: none"> - Reducing emissions; - Reducing dependence on fossil fuels; - Recovering of waste materials; - Certification of actual supply chain impact; - Constant TCO (cost of transport)
BENEFITS	<p>Compared to diesel-powered vehicles:</p> <ul style="list-style-type: none"> - Reduction of 104% in CO2e emissions; - Reduction of 95% in particulate matter; - Reduction of 70% in nitrogen oxide (NOx) emissions; - Reduction of 99% in fine particle emissions
SECTOR	Transport
YEAR OF IMPLEMENTATION	2018-2023
FIND OUT MORE	https://www.linkedin.com/posts/grupposanpellegrino_la-roadmap-di-sanpellegrino-per-una-logistica-activity-7004392040377552898-Etfg?utm_source=share&utm_medium=member_desktop